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By: Renée D. EastSigned: R.D. EastDate of signature and deposit/transmission: September 8, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hong Jiang et al.) Group Art Unit: 3663
)
Serial No.: 10/774,805) Confirmation No.: 9249
)
Filed: February 9, 2004) Examiner: Pipala, Edward J.
)
For: Method and System for Controlling a) Atty. Docket: 81075405
Transfer Case Clutch to Protect Against)
Excessive Heat)

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REMARKS ACCOMPANYING REQUEST FOR
PRE-APPEAL BRIEF CONFERENCE

Honorable Sir:

Pursuant to the procedure specified in the Notice published in the Official Gazette on July 12, 2005, review of a final rejection of the subject application, which is set forth in the Office Action mailed August 25, 2006, is requested for the following reasons.

The final rejection contains clear errors in that (1) limitations of claims 1 and 17-19 are not disclosed in the U.S. patent of Maguire et al. (USP 6,095,946), which are cited as a prior art reference basis for rejecting those claims under 35 U.S.C. 102(b); and (2) limitations of claims 1-9 and 17-19 are neither disclosed, taught, nor suggested in the U.S. patents of Salecker et al. (USP 6,006,149) or Maguire et al. (USP 6,095,946).

which are cited as prior art reference basis for rejecting those claims under 35 U.S.C. 103(a).

1. Claim 1 recites a method for controlling a clutch. The method steps include operating the clutch partially engaged; calculating the temperature of the clutch; comparing the calculated clutch temperature and a reference clutch temperature; and, if the calculated clutch temperature equals or exceeds the reference clutch temperature, then increasing the degree of clutch engagement sufficiently to reduce the calculated temperature of the clutch.

The '946 contains no disclosure that clutch 18 is operated partially engaged.

The '946 contains no disclosure that the current clutch temperature and a reference clutch temperature are compared mutually. Instead, the '946 patent discloses that the current clutch temperature is calculated, a temperature increase in the clutch due to the next shift of the transmission is calculated, and the expected temperature of the clutch at the end of the next shift is calculated (col. 4, ll. 23-30). The '946 patent discloses that if the future clutch temperature will exceed the design limit, a reference clutch temperature, after the next shift of the transmission, then additional steps are taken.

The '946 contains no disclosure that the degree of clutch engagement is increased sufficiently to reduce the calculated temperature of the clutch. Instead, the '946 patent discloses that the steps taken to avoid excessive clutch temperature are reducing engine torque, by adjusting engine spark timing and engine fuel feed, and increasing apply pressure at the clutch (col. 4, ll. 34-44).

Claim 17 recites a system for controlling a clutch in a transfer case. The '946 patent discloses no transfer case. Instead, its Figure 1 discloses an engine 12, a transmission 14 having a planetary gear arrangement 20, and a clutch 18, which driveably connects the engine shaft and the transmission input. Similarly as discussed with respect to claim 1 above, claim 17 recites operating the clutch partially engaged; comparing the calculated temperature of the clutch and reference clutch temperature; and producing an output signal for increasing the degree of clutch engagement sufficiently to reduce the calculated temperature of the clutch, if the calculated temperature of the clutch equals or

exceeds the reference clutch temperature. Those claim elements are absent from the '946 patent.

Claims 1 and 17-19 should not be rejected as anticipated by U. S. Patent 6,095,946 of Maguire et al. because limitations of each of those claims are not disclosed there.

2. The Office action correctly acknowledges that the '149 patent of Salecker et al. does not teach "increasing the degree of clutch engagement sufficiently to reduce the calculated temperature of the clutch" when the calculated clutch temperature equals or exceeds the reference clutch temperature. The '149 patent teaches no remedy for dealing with excessive clutch temperature. Instead, upon the vehicle operator turning off the engine ignition system, a certain parameter P is saved in electronic memory, such as the calculated clutch temperature. If the saved parameter P is less than a reference value, the value of P is stored electronically and the control unit is deactivated. If the saved parameter P is greater than a reference value, the value of P is determined at a later time. (col. 13, ll. 39-59; step 401, Fig. 8; and steps 403-408, Fig. 8)

There is no motivation for combining the disclosures of the '946 and '149 patents. The '149 is concerned with calculating a clutch temperature, turning off the engine ignition system, and deactivated a control unit. There is no remedial action disclosed in the '149 patent for reducing the clutch temperature while continuing to operate the engine. Calculating the clutch temperature is its principal objective.

As discussed above with reference to claim 1, the '946 contains no disclosure that the degree of clutch engagement is increased sufficiently to reduce the calculated temperature of the clutch. The '946 patent discloses that if the future clutch temperature will exceed a reference clutch temperature after the next shift of the transmission, then remedial steps are taken. The '946 patent does not disclose or suggest that a step taken to avoid excessive clutch temperature is increasing the degree of clutch engagement. Instead, the strategy of the '946 patent would reduce engine torque by adjusting engine spark timing and engine fuel feed, and increase apply pressure at the clutch.

Claim 17 recites a system for controlling a clutch in a transfer case. Neither the '946 patent nor the '149 disclose a transfer case. Figure 1, 2 and 10 of the '149 disclose a

start-up clutch in a torque deliver path between an engine output and a transmission input. The clutch does not transmit torque between a transmission output and a secondary pair of vehicle wheels, as does the transfer clutch in a transfer case (see Figs. 1, 2A, and 2B of the subject application).

Similarly as discussed above with respect to claim 1, claim 17 recites producing an output signal for increasing the degree of clutch engagement sufficiently to reduce the calculated temperature of the clutch, if the calculated temperature of the clutch equals or exceeds the reference clutch temperature. Those limitations of claim 17 are absent from the '946 patent and '149 patent.

Combining the disclosures of the '946 patent and '149 patent neither teaches, discloses nor suggests the method or system defined by claims 1-9 and 17-19 of the subject application. Claims 1-9 and 17-19 should not be rejected as obvious in view of these prior art references.

In view of the foregoing, claims 1-9 and 17-19 are in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



Frank G. McKenzie
Attorney for Applicants
Reg. No. 29, 242

Dated: September 6, 2006
MacMillan, Sobanski & Todd, LLC
One Maritime Plaza, Fourth Floor
720 Water Street
Toledo, Ohio 43604
(734) 542-0900
(734) 542-9569 (fax)

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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number: 81075405	
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<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the <input type="checkbox"/> applicant/inventor.  <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>29,242</u> Telephone number <u>734-542-0900</u> <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a). Date <u>September 8, 2006</u></p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> <p><input type="checkbox"/> *Total of _____ forms are submitted.</p>			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, U. S. Department of Commerce, P. O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

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